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10/053,212	01/15/2002	Toshihisa Shimo	5000-4985	4401

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EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b><i>Office Action Summary</i></b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/053,212	SHIMO ET AL.
<b>Examiner</b>	Art Unit	
Katarzyna Wyrozebski Lee	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on \_\_\_\_.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-9 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0703. 6)  Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2 the applicants have limitation describing phenolic resin as "resol type". Such limitation renders claims indefinite, since it is not clear if the phenolic resin utilized is resol or some type of derivative of the resol resin.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by TWARDOWSKA (US 2003/0105208).

The prior art of TWARDOWSKA discloses thermosetting inorganic clay composition. The composition of TWARDOWSKA according to Abstract comprises intercalated clay.

Intercalated clay of TWARDOWSKA includes smectite clay such as montmorillonite, which contains sodium cations and which undergoes cation exchange with ammonium compound [0024, 0025]. According to Tables in prior art of TWARDOWSKA, intercalated clay is utilized in amount of 3.5-4 wt % (Table III, page 5) and 4.5 in Table IV (page 6).

Thermosetting resins of TWARDOWSKA include phenolic resins such as resol, its derivatives as well as epoxy, polyamide and acrylics [0032].

Filler of the prior art of TWARDOWSKA includes calcium carbonate, which is utilized in amount of 10-100 parts by weight [0035].

In the light of the above disclosure the prior art of TWARDOWSKA anticipates requirements of claims rejected above.

5. Claims 1, 2, 3, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by SYMONS (US 5,309,690).

The prior art of SYMONS discloses composite panel comprising fiber, resin and fillers. The resin of the prior art of SYMONS includes resol resin (col. 3, lines 11-15).

The inorganic insulating material of SYMONS includes exfoliated clay such as vermiculite, perlite. Exfoliated clays are very often referred to as silicates. Preferred are expanded vermiculite and perlite (col. 5, lines 12-20).

The filler is a natural fiber as claimed in claims of the prior art of SYMONS (see claims).

In the light of the above disclosure, the prior art of SYMS anticipates requirements of claims rejected above.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-3, 5, 7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over NINOMIYA (US 6,391,959).

The prior art NINOMIYA discloses composition for fiber reinforced material comprising phenolic resin.

According to the examples of the prior art of NINOMIYA the fillers in the phenolic resin composition include calcium carbonate (example 2, 3 Table I) and clay (example 6, 7 Table III) both utilized in amount of 4 wt %.

The phenolic resin in the composition of NINOMIYA includes resol type resin or novolak type resin (col. 6, lines 6-13).

The prior art of NINOMIYA teaches use of inorganic fillers since they improve flame retardancy of the molding compositions they promote viscosity increase, reduction in tackiness and improve releasability. Although no example of NINOMIYA teaches using two fillers, for example clay and calcium carbonate such would have been obvious modification.

It is well settled that it is *prima facie* obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Linder* 457 F.2d 506, 509, 173 USPQ 356, 359 (CCPA 1972).

10. Claims 1-3, 5-7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JUENGER (US 3,830,894).

The prior art of JUENGER discloses composition for filled phenolic resin. The phenolic resin of the prior art of JUENGER is resol (col. 2, lines 63-65).

The granulated filler of the prior art of JUENGER includes expanded clay, inflating clay or exfoliated clay. The filler is utilized in amount of 5-30 wt % (col. 2, lines 23, 28-42). The fillers are chosen due to their resistance to fire.

According to the examples of the prior art of JUENGER, filler include calcium carbonate (example 2), exfoliated clay (example 4).

The prior art of JUENGER teaches use of inorganic fillers since they improve flame retardancy. Although no example of JUENGER teaches using two fillers, for example clay and calcium carbonate such would have been obvious modification.

It is well settled that it is *prima facie* obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Linder* 457 F.2d 506, 509, 173 USPQ 356, 359 (CCPA 1972).

11. Claims 4, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JUENGER (US 3,830,894) as applied to claims 1-3, 5-7, 9 above, and further in view of ROSS (US 6,610,770).

The discussion of the disclosure of the prior art of JUENGER from paragraph 10 of this office action is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of JUENGER is more explicit description of expanded or exfoliated clay as well as small amounts of the clay.

With respect to the above differences, the prior art of ROSS discloses flame retardant composition comprising exfoliated clay.

The clay component of ROSS includes sodium montmorillonite (col. 6, lines 50-55) that is intercalated with ammonium compound (col. 7). The amount of clay in the composition of ROSS is 0.1-40 wt % (col. 11, line 54). In the examples, clay is incorporated into polymeric matrix in amount of 5.5 wt % (example 2).

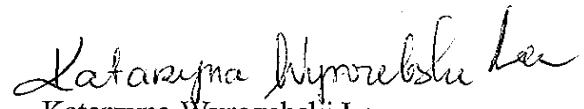
Ammonium intercalated clay component of the prior art of ROSS has flame retarding properties.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize clay component in amounts disclosed in ROSS in addition to calcium carbonate in the composition JUENGER and thereby obtaining the claimed invention. Combining clay with the calcium carbonate composition of JUENGER would still allow one of ordinary skill in the art to arrive at a composition that has flame retardant properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Katarzyna Wyrozebski Lee  
Primary Examiner  
Art Unit 1714

October 22, 2003